INITIAL REVIEW ENGINEERING REPORT [redacted]
PMN: 18-0116

Final 3/15/2018
ENGINEER: Macek \ LMK \ JAS
PV (kg/yr): [redacted]

SUBMITTER: [redacted]

USE: [redacted]

OTHER USES: [redacted]

MSDS: Yes Label: No

Gen Eqpt: Use local and general exhaust ventilation to control levels of exposure. Ensure gloves remain in good condition during use and replace if any deterioration is observed. Permeation resistant gloves. Chemical safety goggles or safety glasses with side-shields. Wear cloth work clothing including long pants and long-sleeved shirts.

Respirator: None required under normal conditions of use.
Health Effects: May cause an allergic skin reaction.
TLV/PEL:

CRSS (07/09/2018):

Chemical Name: Castor oil, reaction products with soybean oil

S-H20: [redacted]

VP: [redacted]

MW: [redacted]

Physical State and Misc CRSS Info:

Neat: [redacted] Mfg: NK: Import Proc/Form: [redacted] Submitted Properties: [redacted])

Consumer Use: No

SAT (concerns) :

Related Cases and Misc SAT Info:

Analogs: [redacted].

Migration to groundwater: Slow

PBT rating: P2B1T

Health:

Eco: 2 Water (All releases to water with a CC = 4 ppb)

OCCUPATIONAL EXPOSURE RATING: [redacted]

NOTES & KEY ASSUMPTIONS:
Occupational exposure and environmental releases were estimated using the 9/30/2013 version of ChemSTEER tool. Input to ChemSTEER tool includes information from: the PMN submission, physical / chemical properties, and relevant past cases. This PMN is import only, therefore MFG is not assessed. The SAT report does not list concerns for health, but water releases are a concern (ppb=4) and migration to groundwater is slow. A full assessment was completed. // The following similar use past cases were referenced for consistency: [redacted] // PROC: This IRER assesses releases from equipment cleaning [redacted]. It also assesses dermal exposures from unloading [redacted]

POLLUTION PREVENTION CONSIDERATIONS:
P2 Claim: [redacted]

EXPOSURE-BASED REVIEW: No

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USE: Intermediate [redacted]

Number of Sites/ Location: [redacted]

Days/yr: [redacted]

Basis: The submission specifies [redacted]

Process Description: [redacted] (per submission)

ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium. Note, [redacted].

Water or Incineration or Landfill

Output 1: [redacted]

Output 2: [redacted]

to: [redacted]

from: Equipment Cleaning Losses of [redacted] from a Single, Large Vessel

basis: User-Defined Loss Rate Model. [redacted]. Per March 2015 guidance on assessing releases of a chemical intermediate from reactor cleaning, RAD assumes 95-99% reaction, with 1% residual. [redacted]

RELEASE TOTAL

[redacted]

OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY

Tot. # of workers exposed via assessed routes: [redacted]

Basis: The submission estimates [redacted] workers may be exposed. RAD assumes that all workers perform all activities and that all workers may be exposed at the highest potential exposures for each physical form, as conservative.

Inhalation:

negligible (VP [redacted]); Mist generation is not expected during this operation.

Dermal:

Exposure to Liquid [redacted]
High End:
> Potential Dose Rate: [redacted]
> Lifetime Average Daily Dose: [redacted]
> Average Daily Dose: [redacted]
> Acute Potential Dose: [redacted]
Number of workers (all sites) with dermal exposure: [redacted]
Basis: Unloading [redacted] Raw Material from Drums; EPA/OPPT 2-Hand Dermal Contact with [redacted] Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years. |

INITIAL REVIEW ENGINEERING REPORT [redacted]

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Disposal: [redacted]

Number of Sites/ Location: [redacted]

[redacted]

Days/yr: [redacted]

Basis: The submission [redacted]

Process Description:

ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium.

Water
Output 2: [redacted]
to: [redacted]
from: Cleaning [redacted] Residuals from Drums
basis: EPA/OPPT Water Saturation Loss Model. [redacted] RAD uses the EPA/OPPT Water Saturation Loss Model to estimate the portion of PMN that remains in the water and conservatively assmes that this is released to water.

Landfill
Output 2: [redacted]
to: landfill [redacted]
from: Cleaning [redacted] Residuals from Drums
basis: User-Defined Loss Rate Model. [redacted]

RELEASE TOTAL
[redacted]

OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY
Tot. # of workers exposed via assessed routes: [redacted]
Basis: The submission estimates 5 workers potentially exposed durng drum recycling.

Inhalation:

negligible (VP < 0.001 torr). Generation of mists/aerosols not expected from drum cleaning.

Dermal:

Exposure to Liquid [redacted]
High End:
> Potential Dose Rate: [redacted]
> Lifetime Average Daily Dose: [redacted]
> Average Daily Dose: [redacted]
> Acute Potential Dose: [redacted]
Number of workers (all sites) with dermal exposure: [redacted]
Basis: Cleaning [redacted] Residuals from Drums; EPA/OPPT 2-Hand Dermal Contact with [redacted] Model. Per November 2016 RAD guidance, default parameters for this model were updated: body weight (BW) was updated from 70 to 80 kg and Averaging Time over a Lifetime (ATc) was updated from 70 to 78 years.